

## § 19.32

initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not result in undue hazard to life or property.

### § 19.32 Discrimination prohibited.

No person shall on the ground of sex be excluded from participation in, be denied the benefit of, or be subjected to discrimination under any program or activity licensed by the Nuclear Regulatory Commission. This provision will be enforced through agency provisions and rules similar to those already established, with respect to racial and other discrimination, under Title VI of the Civil Rights Act of 1964. This remedy is not exclusive, however, and will not prejudice or cut off any other legal remedies available to a discriminatee.

[68 FR 75389, Dec. 31, 2003]

### § 19.40 Criminal penalties.

(a) Section 223 of the Atomic Energy Act of 1954, as amended, provides for criminal sanctions for willful violation of, attempted violation of, or conspiracy to violate, any regulation issued under sections 161b, 161i, or 161o of the Act. For purposes of section 223, all the regulations in part 19 are issued under one or more of sections 161b, 161i, or 161o, except for the sections listed in paragraph (b) of this section.

(b) The regulations in part 19 that are not issued under sections 161b, 161i, or 161o for the purposes of section 223 are as follows: §§ 19.1, 19.2, 19.3, 19.4, 19.5, 19.8, 19.16, 19.17, 19.18, 19.30, 19.31, and 19.40.

[57 FR 55071, Nov. 24, 1992]

## PART 20—STANDARDS FOR PROTECTION AGAINST RADIATION

### Subpart A—General Provisions

- Sec.
- 20.1001 Purpose.
  - 20.1002 Scope.
  - 20.1003 Definitions.
  - 20.1004 Units of radiation dose.
  - 20.1005 Units of radioactivity.
  - 20.1006 Interpretations.
  - 20.1007 Communications.
  - 20.1008 Implementation.
  - 20.1009 Information collection requirements: OMB approval.

## 10 CFR Ch. I (1–1–05 Edition)

### Subpart B—Radiation Protection Programs

- 20.1101 Radiation protection programs.

### Subpart C—Occupational Dose Limits

- 20.1201 Occupational dose limits for adults.
- 20.1202 Compliance with requirements for summation of external and internal doses.
- 20.1203 Determination of external dose from airborne radioactive material.
- 20.1204 Determination of internal exposure.
- 20.1205 [Reserved]
- 20.1206 Planned special exposures.
- 20.1207 Occupational dose limits for minors.
- 20.1208 Dose equivalent to an embryo/fetus.

### Subpart D—Radiation Dose Limits for Individual Members of the Public

- 20.1301 Dose limits for individual members of the public.
- 20.1302 Compliance with dose limits for individual members of the public.

### Subpart E—Radiological Criteria for License Termination.

- 20.1401 General provisions and scope.
- 20.1402 Radiological criteria for unrestricted use.
- 20.1403 Criteria for license termination under restricted conditions.
- 20.1404 Alternate criteria for license termination.
- 20.1405 Public notification and public participation.
- 20.1406 Minimization of contamination.

### Subpart F—Surveys and Monitoring

- 20.1501 General.
- 20.1502 Conditions requiring individual monitoring of external and internal occupational dose.

### Subpart G—Control of Exposure From External Sources in Restricted Areas

- 20.1601 Control of access to high radiation areas.
- 20.1602 Control of access to very high radiation areas.

### Subpart H—Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas

- 20.1701 Use of process or other engineering controls.
- 20.1702 Use of other controls.
- 20.1703 Use of individual respiratory protection equipment.
- 20.1704 Further restrictions on the use of respiratory protection equipment.
- 20.1705 Application for use of higher assigned protection factors.

## **Nuclear Regulatory Commission**

## **§ 20.1001**

### **Subpart I—Storage and Control of Licensed Material**

- 20.1801 Security of stored material.
- 20.1802 Control of material not in storage.

### **Subpart J—Precautionary Procedures**

- 20.1901 Caution signs.
- 20.1902 Posting requirements.
- 20.1903 Exceptions to posting requirements.
- 20.1904 Labeling containers.
- 20.1905 Exemptions to labeling requirements.
- 20.1906 Procedures for receiving and opening packages.

### **Subpart K—Waste Disposal**

- 20.2001 General requirements.
- 20.2002 Method for obtaining approval of proposed disposal procedures.
- 20.2003 Disposal by release into sanitary sewerage.
- 20.2004 Treatment or disposal by incineration.
- 20.2005 Disposal of specific wastes.
- 20.2006 Transfer for disposal and manifests.
- 20.2007 Compliance with environmental and health protection regulations.

### **Subpart L—Records**

- 20.2101 General provisions.
- 20.2102 Records of radiation protection programs.
- 20.2103 Records of surveys.
- 20.2104 Determination of prior occupational dose.
- 20.2105 Records of planned special exposures.
- 20.2106 Records of individual monitoring results.
- 20.2107 Records of dose to individual members of the public.
- 20.2108 Records of waste disposal.
- 20.2109 [Reserved]
- 20.2110 Form of records.

### **Subpart M—Reports**

- 20.2201 Reports of theft or loss of licensed material.
- 20.2202 Notification of incidents.
- 20.2203 Reports of exposures, radiation levels, and concentrations of radioactive material exceeding the constraints or limits.
- 20.2204 Reports of planned special exposures.
- 20.2205 Reports to individuals of exceeding dose limits.
- 20.2206 Reports of individual monitoring.

### **Subpart N—Exemptions and Additional Requirements**

- 20.2301 Applications for exemptions.

- 20.2302 Additional requirements.

### **Subpart O—Enforcement**

- 20.2401 Violations.
- 20.2402 Criminal penalties.

APPENDIX A TO PART 20—ASSIGNED PROTECTION FACTORS FOR RESPIRATORS

APPENDIX B TO PART 20—ANNUAL LIMITS ON INTAKE (ALIS) AND DERIVED AIR CONCENTRATIONS (DACs) OF RADIONUCLIDES FOR OCCUPATIONAL EXPOSURE; EFFLUENT CONCENTRATIONS; CONCENTRATIONS FOR RELEASE TO SEWERAGE

APPENDIX C TO PART 20—QUANTITIES OF LICENSED MATERIAL REQUIRING LABELING

APPENDIX D TO PART 20—UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICES

APPENDIXES E–F TO PART 20 [RESERVED]

APPENDIX G TO PART 20—REQUIREMENTS FOR TRANSFERS OF LOW-LEVEL RADIOACTIVE WASTE INTENDED FOR DISPOSAL AT LICENSED LAND DISPOSAL FACILITIES AND MANIFESTS

AUTHORITY: Secs. 53, 63, 65, 81, 103, 104, 161, 182, 186, 68 Stat. 930, 933, 935, 936, 937, 948, 953, 955, as amended, sec. 1701, 106 Stat. 2951, 2952, 2953 (42 U.S.C. 2073, 2093, 2095, 2111, 2133, 2134, 2201, 2232, 2236, 2297f), secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note).

### **Subpart A—General Provisions**

SOURCE: 56 FR 23391, May 21, 1991, unless otherwise noted.

#### **§ 20.1001 Purpose.**

(a) The regulations in this part establish standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the Nuclear Regulatory Commission. These regulations are issued under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended.

(b) It is the purpose of the regulations in this part to control the receipt, possession, use, transfer, and disposal of licensed material by any licensee in such a manner that the total dose to an individual (including doses resulting from licensed and unlicensed radioactive material and from radiation sources other than background radiation) does not exceed the standards for protection against radiation prescribed in the regulations in this part. However, nothing in this part

## § 20.1002

shall be construed as limiting actions that may be necessary to protect health and safety.

### § 20.1002 Scope.

The regulations in this part apply to persons licensed by the Commission to receive, possess, use, transfer, or dispose of byproduct, source, or special nuclear material or to operate a production or utilization facility under Parts 30 through 36, 39, 40, 50, 60, 61, 63, 70, or 72 of this chapter, and in accordance with 10 CFR 76.60 to persons required to obtain a certificate of compliance or an approved compliance plan under part 76 of this chapter. The limits in this part do not apply to doses due to background radiation, to exposure of patients to radiation for the purpose of medical diagnosis or therapy, to exposure from individuals administered radioactive material and released under § 35.75, or to exposure from voluntary participation in medical research programs.

[67 FR 20370, Apr. 24, 2002; 67 FR 62872, Oct. 9, 2002, as amended at 67 FR 77652, Dec. 19, 2002]

### § 20.1003 Definitions.

As used in this part:

*Absorbed dose* means the energy imparted by ionizing radiation per unit mass of irradiated material. The units of absorbed dose are the rad and the gray (Gy).

*Act* means the Atomic Energy Act of 1954 (42 U.S.C. 2011 *et seq.*), as amended.

*Activity* is the rate of disintegration (transformation) or decay of radioactive material. The units of activity are the curie (Ci) and the becquerel (Bq).

*Adult* means an individual 18 or more years of age.

*Airborne radioactive material* means radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors, or gases.

*Airborne radioactivity area* means a room, enclosure, or area in which airborne radioactive materials, composed wholly or partly of licensed material, exist in concentrations—

(1) In excess of the derived air concentrations (DACs) specified in appendix B, to §§ 20.1001–20.2401, or

(2) To such a degree that an individual present in the area without res-

## 10 CFR Ch. I (1–1–05 Edition)

piratory protective equipment could exceed, during the hours an individual is present in a week, an intake of 0.6 percent of the annual limit on intake (ALI) or 12 DAC-hours.

*Air-purifying respirator* means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

*ALARA* (acronym for “as low as is reasonably achievable”) means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest.

*Annual limit on intake* (ALI) means the derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by the reference man that would result in a committed effective dose equivalent of 5 rems (0.05 Sv) or a committed dose equivalent of 50 rems (0.5 Sv) to any individual organ or tissue. (ALI values for intake by ingestion and by inhalation of selected radionuclides are given in table 1, columns 1 and 2, of appendix B to §§ 20.1001–20.2401).

*Assigned protection factor* (APF) means the expected workplace level of respiratory protection that would be provided by a properly functioning respirator or a class of respirators to properly fitted and trained users. Operationally, the inhaled concentration can be estimated by dividing the ambient airborne concentration by the APF.

*Atmosphere-supplying respirator* means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air